AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application, as follows:

Listing of Claims:

1-10 (canceled).

11 (new). A coding method of an excitation vector of a stochastic codebook used in a speech coding apparatus that is divided into a plurality of channels, the coding method comprising:

associating an excitation vector waveform candidate of a predetermined channel with an excitation vector waveform candidate of another channel, such that the excitation vector waveform candidate of the predetermined channel changes in association with a change of a number representing the excitation vector waveform candidate of the another channel;

searching for an excitation vector waveform that minimizes coding distortion using the associated excitation vector waveform candidate of the predetermined channel and the excitation vector waveform candidate of the another channel; and

determining a code of the excitation vector of the stochastic codebook using a code of the excitation vector waveform obtained by the searching, wherein:

the searching, after the associating, calculates a function value using the number representing the changed excitation vector waveform candidate of the another channel and the excitation vector waveform candidate of the predetermined channel changed based on the associating, and, by the function value, finds an excitation vector waveform candidate of each channel that minimizes the coding distortion; and

the determining finds the code of the excitation vector waveform by coding the excitation vector waveform candidate of each channel that minimizes the coding distortion as the excitation vector waveform, and determines the code of the excitation vector of the stochastic codebook using the code of the excitation vector waveform.

12 (new). The coding method of claim 11, wherein:

the searching searches for the excitation vector waveform by a loop calculation of n-fold loops, multiplexed a number of times corresponding to a number of channels n, and repeats the associating predetermined times to change the excitation vector waveform candidate of the predetermined channel by changing the number representing the excitation vector waveform candidate of the another channel, and

the loop calculation changes the number representing the excitation vector waveform candidate of the another channel by a predetermined loop, changing the excitation vector waveform of the predetermined channel by a loop within the predetermined loop.

13 (new). The coding method of claim 11, wherein the stochastic codebook comprises an algebraic codebook, and the excitation vector waveform candidate is represented by a pulse position.

14 (new). The coding method of claim 11, wherein the associating associates the excitation vector waveform candidate of the predetermined channel with a remainder operation result using the number representing the excitation vector waveform candidate of the another channel.